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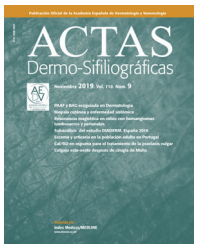

RESIDENT'S FORUM

[Translated article] RF – Usefulness of Zinc Gluconate and Other Nondrug Treatments for Managing Hidradenitis Suppurativa

FR – Utilidad del gluconato de zinc y otros tratamientos no farmacológicos en el manejo de la hidrosadenitis supurativa

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Hidradenitis suppurativa (HS) is a chronic inflammatory disease characterized by inflammatory nodules, abscesses, recurrent furuncles, and fistulas in the axillae, groin, perianal, or inframammary regions. It significantly affects quality of life and can cause depression and anxiety.[1] Treatment is complex and often unsatisfactory. Treatments used include antibiotics, topical or systemic corticosteroids, classical immunosuppressants, tumor necrosis factor α (TNFα) inhibitors (e.g. adalimumab), antiandrogens, antidiabetics such as metformin, and surgical procedures. Nonpharmacological interventions such as dietary supplements can be indicated, although evidence supporting their utility is scarce (Table 1).[2]

A recent retrospective study, which included 92 patients with mild-to-moderate HS successfully treated with oral tetracyclines, evaluated the utility of oral zinc gluconate (ZnG) (90 mg/d) and nicotinamide (30 mg/d) as maintenance treatment for 90 days in 47 patients versus 45 untreated control patients. Significant decreases were observed in the treated versus the control group at weeks 12 and 24 in the following parameters: lesion severity, according to the International Hidradenitis Suppurativa Severity Score System (4.0 and 4.7 versus 6.2 and 7.8, respectively); quality of life according to the Dermatology Life Quality Index (2.9 and 3.5 versus 7.5 and 10.6, respectively); pain (mean visual analog scale score of 2.0 and 2.4 versus 7.5 and 10.6, respectively); and mean duration of flares (3.8 and 4.9 d versus 5 .6 and 8.9 d, respectively). Mean disease-free survival was also significantly longer in the treated group (20.4 d versus 5.4 d in the control group). All these differences were statistically significant ($P < 0.005$). Reported adverse effects

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Table 1 Nonpharmacological Treatments for Hidradenitis Suppurativa.

Agent	Authors	Intervention	Indication	*n*	Evidence	Results
Dietary supplements						
Zinc	Brocard et al., 2007	Zn gluconate (90 mg/d PO)	Mild-to-moderate HS (Hurley stage I–II)	22	Pilot study	Complete and partial response observed in 8 (36%) and 13 (59.1%) out of 22 patients
	Hessam et al., 2016	Zn gluconate (90 mg/d PO) and topical 2% triclosan 2 times/d	HS without active treatment or treatment in the preceding 4 wk	54	Uncontrolled retrospective study	Significant decrease in HS severity in 43 of 54 (79.6%) patients Improvement in quality of life in 40 of 54 (74%) patients Gastrointestinal adverse effects in 12 patients (22%) Treatment discontinuation in 5 patients, dose reduction in 4 patients
	Molinelli et al., 2020	Zn gluconate (90 mg/d) + nicotinamide (30 mg/d) PO for 90 d	Mild-to-moderate HS (Hurley stage I–II) previously treated for 12 wk with minocycline (100 mg/d, PO)	92	Controlled retrospective study	Significant decrease in flare number and duration, improved quality of life, and increased disease-free survival in 47 treated patients versus untreated control group
Vitamin B12	Mortimore and Florin, 2010	Intramuscular vitamin B12, 1000 μg/14 d for 6 wk, and monthly thereafter	Inflammatory bowel disease associated with HS or similar skin lesions (perianal fistulae, inflammatory nodules)	12	Case series	Complete or partial response in 8 of 12 patients
Vitamin D	Guillet et al., 2015	Vitamin D in drinkable ampoules (100,000 IU) according to levels of 25-OH-vitamin D3	HS of any stage with vitamin D deficiency	44	Pilot study	Vitamin D supplementation decreased the number of nodules by 75% in patients with vitamin D deficiency
Dietary interventions						
Mediterranean diet	Barrea et al., 2019	Adherence to Mediterranean diet evaluated using PREDIMED scale	HS of any stage	82	Cross-sectional case–control study	HS severity was inversely proportional to the level of patient adherence to the Mediterranean diet

Table 1 (*Continued*)

Agent	Authors	Intervention	Indication	*n*	Evidence	Results
Yeast-free diet	Cannistrà et al., 2013	Surgery and yeast-free diet	HS of any stage	12	Prospective pilot study	All patients showed stabilization and reduction in skin lesions at 12 mo Lesion recurrence in all patients who resumed consumption of yeast or wheat
	Colboc et al., 2016	Yeast-free diet for 3 mo	HS of any stage with medical treatment	20	Uncontrolled prospective study	Pain, inflammation, suppuration, and flare duration improved in 50% of patients with good adherence to diet Patients with poor adherence reported less improvement in HS
Lifestyle modifications[a]						
Overweight and obesity	Kromann et al., 2014	Weight loss	HS of any stage with bariatric surgery	249	Uncontrolled retrospective study	After bariatric surgery with significant weight loss, complete and partial remission was observed in 17 (48.6%) and 7 (20%) patients, respectively, out of 35 patients with HS
	Thomas et al., 2014	Weight loss	HS and morbid obesity	1	Patient	An isolated case in which, after bariatric surgery with significant weight loss, the symptoms of HS, which had been refractory to various treatments, resolved
Laser hair removal						
Nd:YAG laser	Tierney et al., 2009	4 monthly Nd:YAG laser sessions	Moderate-to-severe HS	22	Prospective randomized controlled study	After 3 mo of treatment, reductions in HS severity were observed: 65.3% in all anatomical areas, 73.4% in the inguinal area, 62% in the axillary region, and 53.1% in the inframammary area
	Mahmoud et al., 2010	4 monthly Nd:YAG laser sessions	Moderate HS with bilateral and symmetrical lesions	22	Prospective randomized controlled intra-patient (right-left) study	72.7% improvement on the treated side versus 22.9% on the control side

Table 1 (*Continued*)

Agent	Authors	Intervention	Indication	*n*	Evidence	Results
	Xu et al., 2011	2 monthly Nd:YAG laser sessions	Moderate HS	20	Prospective randomized controlled intra-patient (right-left) study	An average improvement of 31.6% was observed in all anatomical regions compared to the control side
IPL	Highton et al., 2011	2 sessions per wk for 4 wk	Moderate-to-severe HS with bilateral symmetric involvement	18	Prospective randomized controlled intra-patient (right-left) study	Significant improvement in HS lesion severity on the treated side at 3, 6, and 12 mo
	Piccolo et al., 2014	4 IPL sessions at intervals of 15–20 d	Mild-to-moderate HS	2	Case series	Patients with HS showed a complete response after finishing treatment
Alexandrite laser	Koch et al., 2013	6 laser sessions separated by 6–8 wk	Moderate HS	1	Retrospective study, review of medical records	The HS patient showed complete resolution of the lesions in the groin area, without requiring systemic antibiotic treatment
Diode laser	Sehgal et al., 2011	6 laser sessions separated by 3–4 mo	Bilateral moderate HS affecting the axillae	1	Patient	After 6 sessions, the patient showed an objective improvement in HS lesions

[a] Other recommendations include quitting tobacco, avoiding shaving, and improving skin hygiene and care.
Abbreviations: HS, hidradenitis suppurativa; IPL, intense pulsed light; Nd:YAG: neodymium-doped yttrium aluminum garnet; PREDIMED, prevention with Mediterranean diet; Zn, zinc.
Source: Hendricks et al.[2]

consisted of nausea in 2 patients, neither of whom discontinued treatment.[3]

Two previous studies also support the utility of ZnG in HS. The first pilot study[4] included 22 patients with HS refractory to conventional treatment, treated with 90 mg/d ZnG. All individuals showed an improvement, either partial (63.6%) or complete (36%). Adverse effects were observed in only 3 patients. Another study[5] evaluated the efficacy of ZnG and topical 2% triclosan in 66 patients with mild-to-moderate HS, and reported a significant improvement at 3 months in disease severity, the number of inflammatory nodules and flares, and in quality of life. Gastrointestinal adverse effects were observed in 22 individuals, of whom 5 discontinued treatment. The beneficial effects of ZnG in HS and in other dermatoses may be explained by its anti-inflammatory activity: it inhibits neutrophil chemotaxis, activates natural killer cells and phagocytes, regulates the expression of integrins in keratinocytes, and modulates the production of proinflammatory cytokines, such as TNFα and interleukin 6.[4] Nicotinamide also has anti-inflammatory and antioxidant properties and decreases the accumulation of free radicals.

Management of HS is complex and nonpharmacological interventions can be particularly useful. The combination of ZnG and nicotinamide is a low-cost and well-tolerated alternative, and may be useful as a maintenance treatment or as an adjunct to conventional therapy.

Conflicts of Interest

The authors declare no conflicts of interest.

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